2004 GALVESTON BAY INVASIVE SPECIES RISK ASSESSMENT
INVASIVE SPECIES SUMMARY
Created by: Environmental Institute of Houston, University of Houston-Clear Lake
and the Houston Advanced Research Center

Common Name: Feral pig

Latin Name: *Sus scrofa*

Category: Terrestrial Animal

Place of Origin: "Wild boars, from which domestic hogs originated, originally occurred from southern Scandinavia and Portugal to southeastern Siberia and the Malay Peninsula, from western Sahara to Egypt, and on Britain, Ireland, Corsica, Sardinia, Sri Lanka, Japan, the Ryukyu Islands, Taiwan, Hainan, Sumatra, Java, and many small islands of the East Indies as far east as Komodo (Nowak, 1991)." http://nis.gsmfc.org/nis_factsheet.php?toc_id=215 (Accessed 21 March 2003).

Place of Introduction: Gulf Coast http://nis.gsmfc.org/nis_factsheet.php?toc_id=215 (Accessed 21 March 2003).

Date of Introduction: 1539 http://nis.gsmfc.org/nis_factsheet.php?toc_id=215 (Accessed 21 March 2003).

States Effected:
"In the United States, introduced pure-bread wild boars chiefly occur in North Carolina, Tennessee and California, and have been reported from preserves in New Hampshire, Vermont, and Pennsylvania…..Wild hogs, which are either feral domestic hogs or hybrids of domestic hog and wild boar, have been reported from all five Gulf states, as well Arizona, Arkansas, Georgia, Missouri, Oklahoma, Oregon, and South Carolina (Whitaker, 1988). They have been reported to range from 108,000 to 375,000 square km of the Coastal Plains region of the southeastern United States (Johnson et al., 1982)." http://nis.gsmfc.org/nis_factsheet.php?toc_id=215 (Accessed 21 March 2003).

Life History:
"In areas of tropical climate, wild hogs breed year round. Breeding peaks are typically associated with the rainy season. In areas of temperate climate breeding occurs in the spring (Nowak, 1991). Males fight for control of female groups, and usually win control of 1-3 females, rarely up to 8 (Nowak, 1991). Males return to their solitary lives after breeding (Nowak, 1991; Gingerich, 1994). Females have an estrous cycle of 21 days and are generally receptive for 2-3 days. The gestation period is 100 to 140 days (Ingles, 1965; Nowack, 1991). Near-term females leave the group to give birth, but rejoin it shortly after. Unlike other ungulates the young are born in a nest in which they remain for some time after birth (Nowak, 1991). Nests are generally shallow depressions lined with grass or Spanish moss (Golley, 1962). Females have one or two litters per year, with five to twelve piglets in a litter (Ingles, 1965; Gingerich, 1994). Litter size has been reported to increase with age and peaks when females are between 2-3 years of age (Baber and Coblentz, 1986). Johnson et al. (1982) reported a mean litter size of 3.3 for wild hogs of the Great Smokey Mountains National Park. Baber and Coblentz (1986) reported litter size as 5 for wild hogs established on San Catalina Island, California. The piglets are weaned in three to four months, and may leave the mother prior to the birth of the next litter (Nowack, 1991). Sexual maturity is obtained as early as 5-8 months in females and 7.5-12 months in males (Johnson et al., 1982). Although cases of under yearling females conceiving in the wild have been reported (Conley et al., 1972), females typically do not breed until they are at least 18 months of age (Nowack, 1991). Males do not breed until they reach full size at about 5 years of age (Nowack, 1991)."
http://nis.gsmfc.org/nis_factsheet.php?toc_id=215 (Accessed 21 March 2003).

Growth/Size:
"Some domestic hogs may weigh as much as 450 kg (Nowak, 1991)." http://nis.gsmfc.org/nis_factsheet.php?toc_id=215 (Accessed 21 March 2003).

Feeding Habits/Diet:
"Wild hogs are omnivorous eating roots, leaves, acorns, nuts, bulbs, and tubers, as well as snails, slugs, earthworms, insect larvae, frogs, reptiles including venomous snakes, bird eggs, rats, mice, small weakened or vulnerable mammals, and carrion (Lowery, 1974; Bratton et al., 1982; Laycock, 1984; Baber and Coblentz, 1987; Gingerich, 1994). Laycock (1984) reported a wild hog attacking, killing and eating a white tailed deer fawn. They are occasionally even cannibalistic (Gingerich, 1994). Subadults consume a greater quantity of animal matter than adults and under yearlings tend to have a more diverse diet than subadults or adults (Dardaillon, 1989). Diet tends to vary seasonally with availability of mast (fallen acorns and nuts) which is a preferred food item, and with climate (Golley, 1962; Belden and Pelton, 1975; Bratton et al., 1982; Van Buren, 1984; Baber and Coblentz, 1987). For animals established in Georgia, roots and tubers constitute the main food items taken in winter, whereas leeches, earthworms, insects and fiddler crabs make up a greater portion of the diet in spring and summer. In uplands acorns, roots, seeds, and pines are preferred items (Golley, 1962). Foraging occurs both during the day and night, but is most intense at night, especially during the summer (Van Buren, 1984; Gingerich, 1994). The tusks which may be used as dangerous weapons, function primarily in finding and harvesting food (Laycock, 1984). Although a hoofed mammal, wild hogs have only one stomach, and do not chew cud (Ingles, 1965)."

http://nis.gsmfc.org/nis_factsheet.php?toc_id=215 (Accessed 21 March 2003).

Habitat:
"Wild hogs occur in a variety of habitats, but tend to prefer wooded areas close to water (Gingerich, 1994). They occur in flat coastal areas, in swamps and marshes, as well as on hills or mountain sides (Golley, 1962)."
http://nis.gsmfc.org/nis_factsheet.php?toc_id=215 (Accessed 21 March 2003).

Attitude (aggressive, etc.):
"Wild hogs are typically not aggressive and will retreat if approached. However, when cornered, wounded, or defending young, they may charge and are capable of inflicting serious wounds with their razor sharp tusks (Ingles, 1965; Nowack, 1991; Gingerich, 1994)."
http://nis.gsmfc.org/nis_factsheet.php?toc_id=215 (Accessed 21 March 2000).

"Where abundant wild hogs can have devastating effects on the ecosystem. They consume large amounts of food and may reduce the food supply available for animals such as deer, bear, rabbit, squirrel and turkey (Lacock, 1984; Gingerich, 1994). The most serious damage comes from rooting which is their natural feeding behavior (Laycock, 1984; Gingerich, 1994). Wild hogs overturn large areas of turf leaving a considerable area without vegetation. Rooting is most intense in areas and seasons in which mast is scarce (Bratton et al., 1982). Understory vegetation in forests is greatly affected as are ground nesting birds such as grouse and wild turkey, terrestrial salamanders, etc. (Belden and Pelton, 1975; Laylock, 1984). Rooting is also fairly intense in wet areas under forest cover, and concern over species in these areas has been expressed (Bratton et al., 1982)" http://nis.gsmfc.org/nis_factsheet.php?toc_id=215 (Accessed 21 March 2000).

"This species has been nominated as among 100 of the "World's Worst" invaders. This species has been nominated as among 100 of the "World's Worst" invaders" http://www.issg.org/database/species/ecology.asp?si=73&fr=1&sts (Accessed 21 March 2003).

Physical Description:
Wild hogs are variable in color, size, coat, and form. The body is rounded and legs are short. The tail may be coiled (Whitaker, 1988). Skulls of wild hogs are recognizable by the steeply elevated cranium, the absence of a bony ring around the eye socket, the presence of well developed incisor teeth in the upper jaw, and the presence of upper canines that project outward and sometimes upward. The dental formula is I3/3, C1/1, P4/4, M3/3 X 2 = 44 (Lowery, 1974)….Pure-bread wild boars have a coat of long bristly hairs thickening into a mane on the neck and shoulders. They are usually black and sometimes brown or grey in color. The tail is moderately long and hangs straight, never coiled. The upper tusks are typically between 3 and 5 inches long, but may grow to 9 inches in length, and curl out and up along sides of mouth. The lower tusks are smaller, they turn out slightly rising outside mouth and pointing back towards the eyes (Whitaker, 1988)." http://nis.gsmfc.org/nis_factsheet.php?toc_id=215 (Accessed 21 March 2003).

Management Recommendations / Control Strategies: include references for existing site-specific strategies
"Abstract**:** Methods of controlling feral hog damage are described. Literature on fence designs to exclude hogs indicates hog-proof fences must be net or diamond mesh wire with small ($\leq$ 15 cm) wire spacings. Several designs of electric fences or electrifying existing fences are reported to be effective in excluding most hogs. Lethal techniques described include neck snares, cage or pen traps, hunting with dogs, and aerial hunting with helicopters. These techniques accounted for 55%, 14%, 6.3%, and 17%, respectively, of the hogs taken by the Texas Animal Damage Control Service during 1983-1992. An integrated approach to controlling feral hog damage is recommended."http://texnat.tamu.edu/symposia/feral/feral-23.htm (Accessed 21 March 2003).

Agencies Collecting Data:
Gulf of Mexico Program

References (includes journals, agency/university reports, and internet links):

1. GSMFC - http://www.gsmfc.org/nis/nis/Sus_scrofa.html (Accessed 21 March 2003).
2. ISSG - http://www.issg.org/database/species/ecology.asp?si=73&fr=1&sts=
3. FWC - http://www.wildflorida.org/critters/exotics/SpeciesNumberResults.asp?SPPNO=71
4. NBII - http://www.invasivespecies.gov/profiles/wildboar.shtml
5. USDA – APHIS - http://texnat.tamu.edu/symposia/feral/index.htm
6.

Available Mapping Information:
USDA – APHIS - http://texnat.tamu.edu/symposia/feral/feral-6.htm